

# SOURCE OF OBSIDIANS FROM THE MOTUTAPU UNDEFENDED SITE N38/37

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Thirty pieces of obsidian from the Motutapu undefended site N38/37 (Davidson 1970, 1972) were submitted for chemical characterisation by X-ray fluorescence spectrography. Several were too small for preparation; 24 fragments were prepared and analysed according to the techniques outlined elsewhere (Ward 1972). The results of the spectrographic analyses are given in Table 1.

These data were compared with a previously derived reference configuration which included data from 18 major source localities (Ward 1973, 1974a), using a statistical method of comparison (Ward 1974b). This resulted in the following allocations to source groups being made (Table 2).

It will be seen that all 24 obsidians are allocated to three obsidian source localities within the Hauraki Gulf area, all with acceptably high figures for associated probability. Two of these sources, Te Ahumata (1) and Awana (37) are located on Great Barrier Island, and the third, Huruiki (2), on the adjacent mainland. All sources are within 75 km of Motutapu. These results compare with those obtained by Reeves (Davidson 1972, p. 13, Appendix 1) for obsidian from this and other Motutapu undefended sites, which indicate a majority of "Great Barrier Island" obsidian, but none from the Huruiki source.

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Table 1. Trace element proportions of twenty-four obsidians from N38/37.

ACCESSION NUMBERS*		Element Composition in ppm				
AI & M	OU	Zr	Mn	Ti	Rb	Sr
AR 874	AS 056	134	230	654	309	61
AR 878	AS 057	109	212	678	284	14
AR 878	AS 058	110	257	531	289	01
AR 882	AS 059	188	337	733	222	15
AR 885	AS 060	79	155	509	176	16
AR 887	AS 061	88	195	795	298	01
AR 887	AS 062	185	377	744	228	23
AR 887	AS 063	84	204	636	198	02
AR 887	AS 064	93	201	600	274	05
AR 905	AS 065	100	217	665	254	07
AR 905	AS 066	93	230	484	240	09
AR 912	AS 067	113	243	708	287	09
AR 912	AS 068	64	181	643	187	10
AR 915	AS 069	135	177	655	323	23
AR 926	AS 070	85	184	600	205	06
AR 926	AS 071	211	396	732	257	32
AR 926	AS 072	104	250	643	240	00
AR 930	AS 073	83	187	649	221	10
AR 938	AS 074	111	127	623	268	14
AR1062	AS 075	131	198	615	231	17
AR1062	AS 076	143	222	643	203	38
AR1067	AS 077	149	186	641	292	14
AR1067	AS 078	95	226	674	306	07
AR1070	AS 079	124	156	674	324	05

\* AI & M — Auckland Institute and Museum Archaeology Dept catalogue numbers.  
 OU — Dept of Anthropology, University of Otago, accession numbers.

Table 2. Allocation of twenty-four obsidians from N38/37 to three Hauraki Gulf obsidian source localities.

Accession Numbers	Allocated to Source Number	Group Name	Associated Probability
AS 056	37	Awana	0.91
AS 057	1	Te Ahumata	0.87
AS 058	1	Te Ahumata	0.97
AS 059	37	Awana	0.63
AS 060	2	Huruiki	1.00
AS 061	1	Te Ahumata	0.97
AS 062	37	Awana	0.77
AS 063	1	Te Ahumata	0.89
AS 064	1	Te Ahumata	0.97
AS 065	1	Te Ahumata	0.92
AS 066	1	Te Ahumata	0.89
AS 067	1	Te Ahumata	0.87
AS 068	2	Huruiki	0.91
AS 069	1	Te Ahumata	0.88
AS 070	1	Te Ahumata	0.87
AS 071	37	Awana	0.96
AS 072	1	Te Ahumata	0.94
AS 073	1	Te Ahumata	0.89
AS 074	1	Te Ahumata	0.97
AS 075	1	Te Ahumata	0.80
AS 076	2	Huruiki	1.00
AS 077	1	Te Ahumata	0.95
AS 078	1	Te Ahumata	0.94
AS 079	1	Te Ahumata	0.99